

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Paul Bowen and Jonathan Roberts on 30 December 2009.

The application has been amended as follows:

In claim 1, line 5 has been amended from "differentiating the measurement signal to generate, on a PAP device, evaluation results" to "differentiating the measurement signal on a positive airway pressure (PAP) device to generate evaluation results".

In claim 9, line 5 has been amended from "differentiating the measurement signal to generate, on a PAP device, evaluation results" to "differentiating the measurement signal on a positive airway pressure (PAP) device to generate evaluation results".

In claim 15, line 5 has been amended from "differentiating the measurement signal to generate, on a PAP device, evaluation results" to "differentiating the measurement signal on a positive airway pressure (PAP) device to generate evaluation results".

In claim 19, line 5 has been amended from "differentiating the measurement signal to generate, on a PAP device, evaluation results" to "differentiating the measurement signal on a positive airway pressure (PAP) device to generate evaluation results".

In claim 20, line 5 has been amended from "differentiating the measurement signal to generate, on a PAP device, evaluation results" to "differentiating the measurement signal on a positive airway pressure (PAP) device to generate evaluation results".

In claim 23, line 5 has been amended from "differentiating the measurement signal to generate, on a PAP device, evaluation results" to "differentiating the measurement signal on a positive airway pressure (PAP) device to generate evaluation results".

In claim 34, line 5 has been amended from "on a PAP device" to "on a positive airway pressure (PAP) device".

In claim 35, line 5 has been amended from "on a PAP device" to "on a positive airway pressure (PAP) device", and line 9 has been amended from "a snoring signal." to "a snoring signal, the signal processing being performed on the PAP device".

In claim 36, line 5 has been amended from "on a PAP device" to "on a positive airway pressure (PAP) device", and line 8 has been amended from "results are generated based on an evaluation" to "results are generated on the PAP device based on an evaluation".

In claim 37, line 5 has been amended from "on a PAP device" to "on a positive airway pressure (PAP) device", and line 8 has been amended from "carried out (1) based on" to "carried out on the PAP device (1) based on".

In claim 41, , line 5 has been amended from "differentiating the measurement signal to generate, on a PAP device, evaluation results" to "differentiating the

measurement signal on a positive airway pressure (PAP) device to generate evaluation results".

***Allowable Subject Matter***

2. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to anticipate or make obvious the invention of claims 1-8, 10-14, 17, 18, 21, 22, 24, and 29-31, including, inter-alia, performing signal processing upon a measurement signal related to a person's respiratory activity while receiving pressurized breathing gas by differentiating the measurement signal to generate evaluation results indicative of the respiratory gas flow such that the differentiation alone permits classification between central and obstructive breathing disorders.

The prior art of record fails to anticipate or make obvious the invention of claim 9, including, inter-alia, differentiating a respiratory activity signal to distinguish between obstructive and central breathing disorders by extracting evaluation results for an existing or imminent disturbance from successively occurring changes in the signal's derivatives at the beginning and/or end of the inspiratory phase of a breathing cycle.

The prior art of record fails to anticipate or make obvious the invention of claims 15, 16, and 32, including, inter-alia, differentiating a respiratory activity signal to distinguish between obstructive and central breathing disorders by extracting evaluation results from the signal's derivatives at the beginning and/or end of the expiratory phase of a breathing cycle.

The prior art of record fails to anticipate or make obvious the invention of claim 19, including, inter-alia, differentiating a respiratory activity signal to distinguish between obstructive and central breathing disorders, where processing the signal comprises analyzing the shape of the signal's curve to find the number of local maxima and minima, the amplitude of the local maxima and minima, the sequence of the magnitudes of the amplitudes of the local maxima and minima, and the frequency of the sequence of the local maxima and minima.

The prior art of record fails to anticipate or make obvious the invention of claim 20, including, inter-alia, differentiating a respiratory activity signal to distinguish between obstructive and central breathing disorders, where processing the signal comprises spectral analysis and analysis of the amplitude of a snoring signal.

The prior art of record fails to anticipate or make obvious the method of claims 23 and 33, including, inter-alia, differentiating a respiratory activity signal to distinguish between obstructive and central breathing disorders comprising performing an evaluation procedure that generates information about the nature of a patient's upper respiratory tracts that differentiates between central and obstructive apneas, the elastic properties of the respiratory tracts, the location of an obstruction, the degree of severity of an apnea, and the patient's Pcrit (critical collapse pressure) value.

The prior art of record fails to anticipate or make obvious the invention of claims 25 and 26, including, inter-alia, a respiratory gas supply apparatus comprising a signal processing device configured to generate an evaluation result indicating the origin of a

breathing disorder based solely on variation in reference features obtained via differentiation, in combination with all other limitations of the claims.

The prior art of record fails to anticipate or make obvious the invention of claims 27 and 28, including, inter-alia, an apparatus for evaluation of data configured to generate an evaluation result indicating the origin of a breathing disorder based on variation in reference features obtained directly via differentiation, in combination with all other limitations of the claims.

The prior art of record fails to anticipate or make obvious the invention of claim 34, including, inter-alia, processing a respiratory activity signal to differentiate between obstructive and central breathing disorders, where the processing comprises analyzing the shape of the signal's curve to find the number of local maxima and minima, the amplitude of the local maxima and minima, the sequence of the magnitudes of the amplitudes of the local maxima and minima, and the frequency of the sequence of the local maxima and minima.

The prior art of record fails to anticipate or make obvious the invention of claim 35, including, inter-alia, processing a respiratory activity signal to differentiate between obstructive and central breathing disorders, where the processing comprises spectral analysis and analysis of the amplitude of a snoring signal.

The prior art of record fails to anticipate or make obvious the method of claim 36, including, inter-alia, processing a respiratory activity signal to differentiate between obstructive and central breathing disorders comprising performing an evaluation procedure that generates information about the nature of a patient's upper respiratory

tracts that differentiates between central and obstructive apneas, the elastic properties of the respiratory tracts, the location of an obstruction, the degree of severity of an apnea, and the patient's Pcrit (critical collapse pressure) value.

The prior art of record fails to anticipate or make obvious the invention of claim 37, including, inter-alia, differentiating a respiratory activity signal to distinguish between obstructive and central breathing disorders by extracting evaluation results for an existing or imminent disturbance from successively occurring changes in the signal's derivatives at the beginning and/or end of the inspiratory phase of a breathing cycle.

The prior art of record fails to anticipate or make obvious the method of claim 41, including, inter-alia, classifying between obstructive and central breathing disorders based on variables and/or mathematical operations consisting essentially of differentiation of a measurement signal related to respiration activity, in combination with all other limitations of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAREN E. TOTH whose telephone number is (571)272-6824. The examiner can normally be reached on Mon thru Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor II can be reached on 571-272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patricia C. Mallari/  
Primary Examiner, Art Unit 3735

/K. E. T./  
Examiner, Art Unit 3735